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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/659,885	09/11/2003	Gregory S. Spencer	SC12765TP	5015
47300	7590	06/22/2005	EXAMINER	
FSI C/O LALLY & LALLY, L.L.P. P. O. BOX 684749 AUSTIN, TX 78768-4749			GOUDREAU, GEORGE A	
			ART UNIT	PAPER NUMBER
			1763	

DATE MAILED: 06/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/659,885	SPENCER ET AL.	
	Examiner	Art Unit	
	George A. Goudreau	1763	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on (9-11-03' to 10-13-04').
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8-20, 24 and 25 is/are allowed.
- 6) ☒ Claim(s) 1, 6, 7 and 21-23 is/are rejected.
- 7) ☒ Claim(s) 2-5 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

George Goudreau
GEORGE GOUDREAU
PRIMARY EXAMINER
6-05'

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 6, 20-21, and 23 are rejected under 35 U.S.C. 102(e) as being anticipated by Nicholson et. al. (2005/0023689).

Nicholsen et. al. disclose a process for fabricating a dual damascene structure on the surface of a wafer which is comprised of the following steps:

-A ILD (3) which is comprised of silk (i.e.- a low K dielectric layer) is formed onto the surface of a wafer (1).;

-A a spin on low K, cmp protective layer (5) which is comprised of materials such as HOSP is formed onto the surface of the ILD (3).;

-A cmp polishing stop layer (7), which is comprised, of materials such as SiC is formed onto the surface of the protective layer (5).;

-A trench hole, and via hole are formed into the surface of the ILD.;

-The surface of the wafer is planarized with a metal layer.; and

-The metal layer used to planarize the surface of the wafer is cmp polished down to the cmp polish stop layer to form a damascene structure (11) on the surface of the wafer. (A portion of the cmp polish stop layer is removed during the cmp-polishing step.)

This is discussed specifically on page 3-5; and discussed in general on pages 1-6. This is shown in figures 1-4.

It would have been inherent that the protective layer, which is formed in the process, which is taught above functions as a type of organic, silicon oxide type glue layer since it is covalently bonded to the underlying ILD layer. Further, the reference teaches that this layer provides desirable adhesive (i.e.-glue-like) properties. The examiner cites the case law listed below of interest to the applicant in this regard.

In re Swinehart (169 U.S.P.Q. 226 (CCPA)) and In re Best (195 U.S.P.Q. 430 (CCPA)) state that when an examiner has reasonable basis for believing that functional characteristics asserted to be critical for establishing novelty in the claimed subject matter may, in fact, be inherent characteristics of the prior art, the examiner possesses the authority to require an applicant to prove that the subject matter shown to be in the prior art does not possess the characteristics relied upon.

Thus, all of applicant's claimed limitations are fully met in this regard.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

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consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over the reference as applied in paragraph 2 above.

The reference as applied in paragraph 2 above fail to disclose the following aspects of applicant's claimed invention:

-the specific construction of the low K dielectric layer in the process taught above out of OMCTS

It would have been obvious to one skilled in the art to replace the low K dielectric layer in the process taught above with OMCTS based upon the following. The usage of OMCTS to form a low K dielectric layer on the surface of a wafer is conventional or at least well known in the semiconductor processing arts. (The examiner takes official notice in this regard.) Further, this simply represents the usage of an alternative, and at least equivalent means for forming the low K dielectric ILD layer in the process, which is taught above to the specific means, which are taught above.

6. Claims 2-5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.


7. Claims 8-20, and 24-25 are allowed.

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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9. Any inquiry concerning this communication should be directed to examiner

George A. Goudreau at telephone number (571)-272-1434.


George A. Goudreau
Primary Examiner
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